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Abstract

Environmental and Organizational Stresses and Health

E. K. Eric Gunderson*

This report provides a review of research on environmental and organizational influences on health and describes a large-scale study in progress which involves questionnaires, interviews, on-site observations, medical data, and personnel and organizational records gathered in 23 naval organizations (20 combat ships and three shore stations) and three civilian organizations. Retest data were obtained for nine ships to provide evidence of stability or change in major dimensions studied. A general social systems model was developed for the study which encompasses a wide-range of environmental, organizational, and individual variables and provides a framework for analyzing relationships between the individual and his environment in an organizational context and also for evaluating the effectiveness of individuals, organizational units, and the organization as a whole in achieving organizational objectives.

The physical environment is viewed as an important component of the social system model. The environment has an impact at several levels of analysis and interacts with all other components to influence behavioral outcomes at individual and group levels. The environmental dimensions included in the current studies were: spatial size (crowding), temperature, ventilation, noise, illumination, color, cleanliness, odor, design of fixtures and furnishings, privacy, storage space, and safety factors. These dimensions can be used to characterize the organizational environment as a whole, or,

if significant variability is present, to differentiate among areas or spaces within the total organizational environment. Both the actual physical conditions and individual perceptions of those conditions are taken into account in assessing the effects of environment on illness. Sources of variance in environmental perceptions are separated into the following components: (a) physical aspects (objective physical conditions); (b) characteristics (perceived physical conditions on which individual raters show concensus), and (c) individual uniqueness (deviations of individual perceptions from the group mean). Finally, a difference effect can be computed (the difference between an objective measure and a characteristic or group mean). Using these separate components in predicting illness both increases prediction and helps explain why a relationship exists.

A large number of specific hypotheses pertaining to relationships between environmental and social stresses and health are tested. The results provide important new information concerning the determinants of health and effective work performance and, in addition, advances our theoretical understanding of the behavior of individuals in organizations in terms of explicating a broadly conceived social system model.

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